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Sidedressing Dry Urea Works for Dubuque County Corn Grower

Jason Johnson, Public Affairs Specialist, July 2011

Sidedressing corn is a practice which has come full circle for Dubuque County farmer Tim Daly. After sidedressing for many years he stopped applying the practice due to a lack of time, but after a wet spring four years ago he gave it another try and now Daly is making sidedressing a part of his regular nutrient management plan.

Sidedressing means applying Nitrogen (N) in the spring after the crop is planted. If no N is applied at planting, sidedress applications should be completed early (V3 growth stage). If a farmer applies N at planting, some form of sidedressing can be done through the V8 growth stage.

Daly began farming in 1981 and formed a partnership with his father in 1985. Today, he runs a 700-800 head cattle feeding operation in addition to farming more than 500 acres of corn, soybeans and alfalfa.

Sidedressing Corn-On-Corn

Daly used to struggle with the timing of his N application because he couldn't get it done fast enough. He recently found a solution that allows him to quickly cover more ground. He uses a broadcast spreader on a buggy to sidedress his corn-on-corn ground with dry urea treated with Nutrisphere-N®. "Even with 400-500 cattle on feed, I can spread urea across 180 acres in a day," said Daly. "If I used Anhydrous Ammonia I would not be able to get that much done in one day."

Nutrient Management Specialist Eric Hurley, with USDA's Natural Resources Conservation Service (NRCS), says Daly's use of a urease inhibitor can improve the fertilizer's efficiency. "Nitrogen losses due to ammonia volatilization from surface applied urea can be significant," he said. "A urease inhibitor slows the conversion to ammonia giving the urea a chance to work into the soil where the corn can utilize the nitrogen."



Dubuque County farmer Tim Daly is in his 30th year farming full-time, but continues to learn and adjust his operation accordingly. Just four years ago Daly began sidedressing urea treated with Nutrisphere-N® with excellent results.

Daly says the timing of sidedressing allows the corn to absorb the most N it can during the growth period. He sidedresses in early June when corn is at about the V5 growth stage. Daly says he applied about 60 units this year, but that depends on the results of an annual late spring nitrate test and his yield goals. "I would like to yield 200 bushels per acre this year," he said.

Daly's Nutrient Management Plan

Daly's fertilizer plan actually begins in the fall. He pulls fall stalk nitrate tests to learn how much N he utilized the year before. Then, Daly waits until spring to make any fertilizer applications.

Hurley applauds Daly for waiting until spring to apply nitrogen fertilizer. "From an environmental perspective Tim is dramatically reducing the chances of that nitrogen leaching into groundwater," he said. "And with the nitrogen better retained in the soil, it will benefit the crop."

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In early spring when soil temperatures are below 50° F, Daly applies 100 units of Anhydrous Ammonia (NH₃) with N-Serve® nitrogen stabilizer. Nitrogen stabilizers, like N-Serve®, keep nitrogen in a stable ammonium form by slowing the conversion to nitrate. This helps reduce leaching and makes more N available to plants.

While planting Daly injects approximately 40 units of 32% Urea-Ammonium Nitrate (UAN).

Split Application

Hurley says another commendable aspect of Daly's nutrient management plan is splitting up his applications. He says dividing total nitrogen application into two or more treatments can help growers enhance nutrient efficiency, promote optimum yields and mitigate the loss of nutrients. "By waiting to apply a portion of the N until the corn is better able to utilize the nutrient, plants can absorb the nitrogen more quickly and efficiently," says Hurley. "Crop producers will get more from their fertilizer investment and reduce fertilizer losses that contribute to environmental concerns."



Daly applies 60 units of dry urea with Nutrisphere-N® in June 2011.

MRBI

Daly farms in the Hewitt Creek Watershed, a sub-watershed of the Maquoketa River Watershed. This is a focus area of the Mississippi River Basin Healthy Watershed Initiative (MRBI). Farmers there can receive higher payment rates on conservation practices that avoid, control, and trap nutrient runoff; improve wildlife habitat; and maintain agricultural productivity. Sidedressing N is one of the practices available in the MRBI.

Matt Welsh, who coordinates MRBI projects in the area, says program participants are required to apply nutrient management on acres that are being treated through the MRBI. "Producers, if eligible, may apply nutrient management to all acres they operate," he says. "Nutrient management combined with conservation practices and systems provide a well-rounded approach to addressing water quality impairments and reducing soil erosion."

More information about nutrient management and the MRBI is available on the Iowa NRCS web site at www.ia.nrcs.usda.gov.



Daly looks over some paperwork with Dubuque County District Conservationist Theresa Weiss. Local MRBI Watershed Coordinator Matt Welsh (left) and Iowa State University Extension Project Coordinator Chad Ingels (right) look on.